

^{180}Ta ε decay [1980Ry01,1962Ga07,1974HeYW](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 126, 151 (2015)	1-Feb-2015

Parent: ^{180}Ta : $E=0.0$; $J^\pi=1^+$; $T_{1/2}=8.154$ h 6; $Q(\varepsilon)=845.6$ 26; $\% \varepsilon$ decay=86 3

[1962Ga07](#): ^{180}Ta activity from $^{180}\text{Hf}(d,2n)$, $E(d)=11$ MeV. Measured E_γ , I_γ , Ice, $\beta\gamma$ coin using a 6-gap orange spectrometer and NaI detector.

[1980Ry01](#): ^{180}Ta activity from 14 MeV neutrons on natural Ta foils. Measured E_γ , I_γ , Ice, $4\pi\beta$ and γ -x-ray coincidences using Ge(Li) and intrinsic Ge detectors and a $4\pi\beta$ counter.

[1974HeYW](#): Measured E_γ , I_γ using Ge(Li) detector.

[Additional information 1.](#)

α : [Additional information 2.](#)

 ^{180}Hf Levels

E(level) [†]	J^π [†]	$T_{1/2}$ [†]
0.0	0^+	stable
93.3240 20	2^+	1.519 ns 10

[†] From the Adopted Levels.

 ε radiations

E(decay)	E(level)	I_ε [†]	Log ft	Comments
(752 3)	93.3240	25 1	5.978 24	$\varepsilon K=0.80845$ 9; $\varepsilon L=0.14615$ 7; $\varepsilon M+=0.04540$ 3
(846 3)	0.0	61 2	5.700 21	$\varepsilon K=0.8112$; $\varepsilon L=0.14410$ 5; $\varepsilon M+=0.04465$ 2

[†] Absolute intensity per 100 decays.

 $\gamma(^{180}\text{Hf})$

I_γ normalization: See ^{180}Ta β^- decay for decay scheme normalization.

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [†]	α	Comments
93.324 2	100	93.3240	2^+	0.0	0^+	E2	4.63	$\alpha(K)=1.081$ 16; $\alpha(L)=2.70$ 4; $\alpha(M)=0.675$ 10; $\alpha(N)=0.1562$ 22; $\alpha(O)=0.0197$ 3 $\alpha(P)=6.96\times 10^{-5}$ 10 E_γ : 93.4 2 is measured by 1974HeYW .

[†] From the Adopted Gammas.

[‡] For absolute intensity per 100 decays, multiply by 0.0451 16.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

